REMARKS

This amendment responds to the Office Action mailed February 20, 2008. In the Office Action the Examiner:

- rejected claims 1-8, 12-20 and 24-31 under 35 U.S.C. 103(a) as unpatentable over Porter et al. (US 7,181,444) in view of McKeeth (US 6,763,362); and
- rejected claims 9-11 and 21-23 under 35 U.S.C. 103(a) as unpatentable over Porter et al. (US 7,181,444, hereinafter "Porter") in view of McKeeth (US 6,763,362, hereinafter "McKeeth"), and further in view of Schultz (US 6,208,988, hereinafter "Schultz").

In this Response, no claims have been amended. Therefore, claims 1-31 are pending.

Interview Summary

On May 15, 2008, the undersigned attorney and an associate held a telephone interview with Examiner Miranda Le. During the interview, the Applicant and Examiner discussed the prior art references as they relate to the claims of the present application. There were differences between the Examiner and the Applicant on applying the prior art references to the claims. No agreement was reached.

35 U.S.C. 103(a)

To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. MPEP § 2143.03 citing *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." MPEP § 2143.03 citing *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

The arguments submitted in the response to the prior office action are hereby incorporated by reference and are maintained. The following remarks are in addition to those made in the response to the prior office action.

Porter Does Not Teach Generating an Improved Search Result When a Search Result is Already Stored in Cache

Porter does not teach, and the Examiner concedes (see, Office Action, p. 4), the following limitations of claim 1:

> returning a search result …, including:
>
> determining whether **a query result** corresponding to the search query **is stored in a cache**;
>
> ….
>
> **accessing a reuse count of the cached search result**;
>
> wherein the cached search result comprises **a list of results that satisfy the search query**, and the reuse count comprises a number of times that the list of results has been reused to respond to submissions of the search query;
>
> when predefined conditions are satisfied, including the reuse count being larger than a predetermined threshold count, **generating an improved search result in accordance with a second set of predetermined searching criteria including performing an additional search corresponding to the search query**, and returning as the search result at least a subset of the improved search result; wherein the improved search result comprises an improved list of results that satisfy the search query…
>
> (Claim 1, emphasis added)

Instead, Porter teaches retrieving a search result from a cache if the search result was previously stored in the cache (see, blocks 48 and 46 in Figure 4, and col. 7, lns. 30-34). Otherwise, a search engine in Porter is instructed to search a database (see, col. 10, paragraph starting on ln. 55) to conduct a new search. Porter does not teach generating a new search result when there is already a search result stored in the cache. On the other hand, the "generating an improved search result" operation in claim 1 only occurs when predefined conditions are satisfied, and those conditions include a cached list of results that satisfy the search query.

Furthermore, Porter does not teach applying predefined conditions to cached search results, such as evaluating a reuse count, to determine whether to improve the cached search result. Therefore, Porter also does not teach or even suggest "generating an improved search result" based on the reuse count of a "list of results" in the cache, as recited in claim 1.

The above arguments directed to Porter also apply to claim 2, which further recites in part:

> ...when the reuse count is larger than the predetermined threshold count, **and the quality indication meets the predefined criteria, generating an improved search result in accordance with a second set of predetermined search criteria using additional search resources**, wherein the improved search result comprises an improved list of results that satisfy the search query, and returning as the search result at least a subset of the improved search result. (Claim 2, emphasis added)

Since Porter does not teach imposing any conditions on search results stored in the cache, Porter does not teach either comparing a "reuse count" to a predetermined threshold nor evaluating whether a "quality indication" meets predefined criteria to determine whether to "generat[e] an improved search result" of the cached search result as recited in claim 2. Instead, Porter only teaches providing a search query result from the cache if it is stored in the cache or the database if the results are not stored in the cache, as previously described.

McKeeth Also Does Not Teach "Generating an Improved Search Result" When a Search Result is Already Stored in Cache, and Does Not Teach Doing So Based on a Reuse Count of a Cached Search Result

Examiner cites McKeeth to cure the deficiencies of Porter. McKeeth teaches refreshing a database by updating "popular" links, which are links that are frequently accessed or viewed. (See, McKeeth, col. 10, lns 52-60) However, even before broaching the subject of the "reuse count," it should be noted that the pending claims all require "generating an improved search result" when predefined conditions are satisfied, and that the predefined conditions stated in the claims are satisfied only when "a query result corresponding to the

search query is stored in [the] cache." As explained next, the combined teachings of Porter and McKeeth fail to meet this fundamental requirement of the pending claims.

The only updating operation in McKeeth updates the database that is searched to produce search results; there is no updating of cached search results in McKeeth. As noted above, Porter does not teach a process for updating a list of search results in its cache and even teaches away from the claimed invention because, when a search result (list of results) is stored in the cache, the cached search result is always returned by Porter in response to the same search query. The updating in McKeeth would update the database searched by Porter to produce a list of results, but would have no impact on the result (in response to a received search query) produced by Porter when the cache already contains a list of results for the received search query – because in Porter the database is not searched when the cache already contains a cached list of results for the received search query. Therefore, for at least this reason, the combined teachings of Porter and McKeeth fail to meet a fundamental requirement of all the pending claims.

As acknowledged by the Examiner, McKeeth does not teach storing lists of previously searched results in a cache or in a separate database. And, McKeeth does not utilize a "reuse count" with respect to a cached search result (which is defined in all the claims to comprise a list of results that satisfy the search query). However, it seems that Examiner believes that "determin[ing] [the] popularity of [a] selected link" is equivalent to "a reuse count of cached search results" as recited in claims 1 and 2 despite a lack of teaching or suggestion by McKeeth.

Tracking usage (either viewings or user selections) of a single link (in the search results returned by a search engine) is not equivalent to tracking reuses of a list of search results for a search query. A usage count for a single link, and a usage count for a cached list of search results are distinct metrics. It seems almost ridiculous to have to argue this point, because these metrics are completely different. Any computer programmer would understand that tracking the usage of distinct individual links will require completely different code, different arrays of counters, and different input information than tracking usage of cached search results (each of which is a list of results that satisfy a particular search query). Also, no competent programmer would argue that the usage counts for individual links could be used

as the equivalents of reuse counts for cached search results (each comprising a list of results that satisfy a search query).

The Examiner incorrectly equates "a link_pop" in McKeeth to the "reuse count" of claims 1 and 2. (See, Office Action page 4) "Link_pop" is described by McKeeth "as the number of times that **a link is selected** by the search engine server" or "the number of times that the user chooses **the link** after appearing as a result to a query." (See, McKeeth, col. 7, lns. 63-66 and col. 8, lns 19-33) The "link_pop" count is thus administered to **each individual link** within the search results provided by a search engine to all its users or selected by users. On the other hand, all the pending claims clearly define the "reuse count" as a count of the "cached search result" wherein the cached search result comprises "a list of results that satisfy the search query." Therefore, tracking usage (either viewings or user selections) of a single link, such as a link to a webpage, described in McKeeth is not the same as "a reuse count of the cached search result", where the cached search result "comprises a list of results that satisfy the search query."

In summary, the combined teachings of Porter and McKeeth fail to teach "a reuse count of the cached search result", where the cached search result "comprises a list of results that satisfy the search query" as required by all the pending claims. The "reuse count of the cached search result" aspect of the pending claims is a significant difference between the pending claims and the combined teachings of Porter and McKeeth, and for at least this reason all the pending claims are patentable over the combined teachings of Porter and McKeeth.

McKeeth Does Not Teach "Generating an Improved Search Result" while "returning a search result corresponding to [a] search query" as required by the pending claims

It is important to note that in claims 1, 2, 12 and 13, and their dependent claims, the operation of "generating an improved search result" is a sub-operation of "returning a search result corresponding to the [received] search query." In other words, the pending claims require that when the predefined conditions are satisfied, the improved search result is generated during the process or returning a search result corresponding to the received search query.

returning a search result ..., including:

....

when predefined conditions are satisfied, including the reuse count being larger than a predetermined threshold count, **generating an improved search result** in accordance with a second set of predetermined searching criteria including performing an additional search corresponding to the search query, and ...
(Claim 1, emphasis added)

In this regard, whether each link in McKeeth is tracked because it appears as a search result or because the link is selected by a user is irrelevant to the analysis of the pending claims. In fact, the only operation performed by McKeeth that is cited by the Examiner (Office Action, Page 8) as relevant to "generating an improved search result" is placing selected links on a queue for crawling[1], followed by a crawler crawling the queue links and updating its database. However, there is no teaching in McKeeth that the operation of queuing and crawling the documents on a queue is completed while producing a set of search results in response to search query.

Thus, the updating in McKeeth fails to meet the requirement in the pending claims that the operation of "generating an improved search result" be performed as part of the operation of "returning a search result corresponding to the [received] search query." This is a significant difference between the claimed invention and the combined teachings of Porter and McKeeth because the claimed invention produces an improved search result "on the fly" (while responding to a search query) and the combined teachings of Porter and McKeeth do not. For at least this reason, all the pending claims are patentable over the combined teachings of Porter and McKeeth.

A secondary point in this regard is that generating an improved search result (comprising a list of results) is not the same as refreshing the content of a database that can later be searched to produce a list of results. McKeeth teaches refreshing a database with the

[1] The process of refreshing the content associated with a link involves "selecting a link from the link database" (based on its popularity), comparing the link to an age threshold, and then placing the link in a queue for crawling. (See, McKeeth, col. 9, lns. 25-50)

content associated with the most popular individual links in a link database. (See, McKeeth, col. 10, lns. 47-55 and Figure 4) The operation of updating the database in McKeeth does not, by itself produce any search results. To produce new search results, a new search query would have to be received and processed (by searching the updated content database). But the processing of a subsequent search query, after performing a content database update, is not the subject matter being claimed in the pending claims. Thus, the content database update in McKeeth is extraneous to and unrelated to the subject matter being claimed in the pending claims.

Claims 3, 15, 25-28: McKeeth does not Teach "Updating the Cache with the Improved Search Result" as required by the pending claims

Method claims 3, 25 and 26 (and system claims 15, 27, 28), require that the cache be updated with the improved search result (which, as discussed above, is required by the pending claims to be generated while returning a search result in response to a received search query). The improved search result is defined in the pending claims to be "an improved list of results that satisfy the search query."

McKeeth does not teach updating a cached "list of results that satisfy a search query." Rather, McKeeth updates the content (e.g., the content in a document) associated with individual links. No other updating of stored information is described in McKeeth. And while Porter caches lists of search results, Porter describes no process and no conditions for replacing or updating a cached list of search results. Therefore, neither McKeeth nor Porter nor any combination of Porter and McKeeth teaches a process for updating a cache (which already contains a list of results that satisfy a search query) with an improved list of results that satisfy the same search query. This is a significant difference between claims 3, 15, 25-28 on the one hand, and the combined teachings of Porter and McKeeth on the other, and for at least this reason all the pending claims are patentable over the combined teachings of Porter and McKeeth.

Claims 9-11 and 21-23

For purposes of this response, Applicant asserts that dependent claims 9-11 and 21-23 are patentable over the combined teachings of the cited references (Porter, McKeeth and Schultz) for the same reasons as their parent claims 2 and 13. Schultz is cited by the only

with respect to features of claims 9-11 and 21-23. Schultz does not disclose any of the claim limitations of claims 1, 2, 12 and 13 that are analyzed in detail above, and has not been cited by the Examiner as having disclosed any of those claim limitations. Therefore, for purposes of this response, the patentability of claims 9-11 and 21-23 over the cited references is based entirely on the patentability of their parent claims 2 and 13.

Conclusion

In summary, the combined teachings of Porter, McKeeth and Schultz fail to teach (at least) each and every one of the following aspects of the pending claims:

1) generating an improved search result when a search result (defined in the claims as "a list of results that satisfy the search query") is already stored in cache;

2) generating an improved search result while (i.e., as a sub-operation of) returning a search result corresponding to the received search query;

3) a reuse count of a cached search result, where the cached search result comprises a list of search results that satisfy the search query;

4) generating an improved search result based on predefined conditions that include a condition associated with the reuse count of a cached search result (where the cached search result comprises a list of search results that satisfy the search query); and

5) updating a cached "list of results that satisfy a search query" (claims 3, 15, 25-28).

In light of the above amendments and remarks, the Applicant respectfully requests that the Examiner reconsider this application with a view towards allowance. The Examiner is invited to call the undersigned attorney at (650) 843-4000, if a telephone call could help resolve any remaining items.

Respectfully submitted,

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